Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Little Lindley Creek

Waterbody Segment at a Glance:


State map showing location of watershed

County: Dallas
Nearby Cities: Buffalo
Length of impairment: 1 mile
Pollutants: Biological Oxygen Demand (BOD)
Volatile Suspended Solids (VSS)
Source: Buffalo Wastewater Treatment Plant

Propose to change the pollutant from NFR to VSS on the 2002 303(d) list

TMDL Priority Ranking: Low

Description of the Problem

Beneficial uses of Little Lindley Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption

Use that is impaired

- Protection of Warm Water Aquatic Life

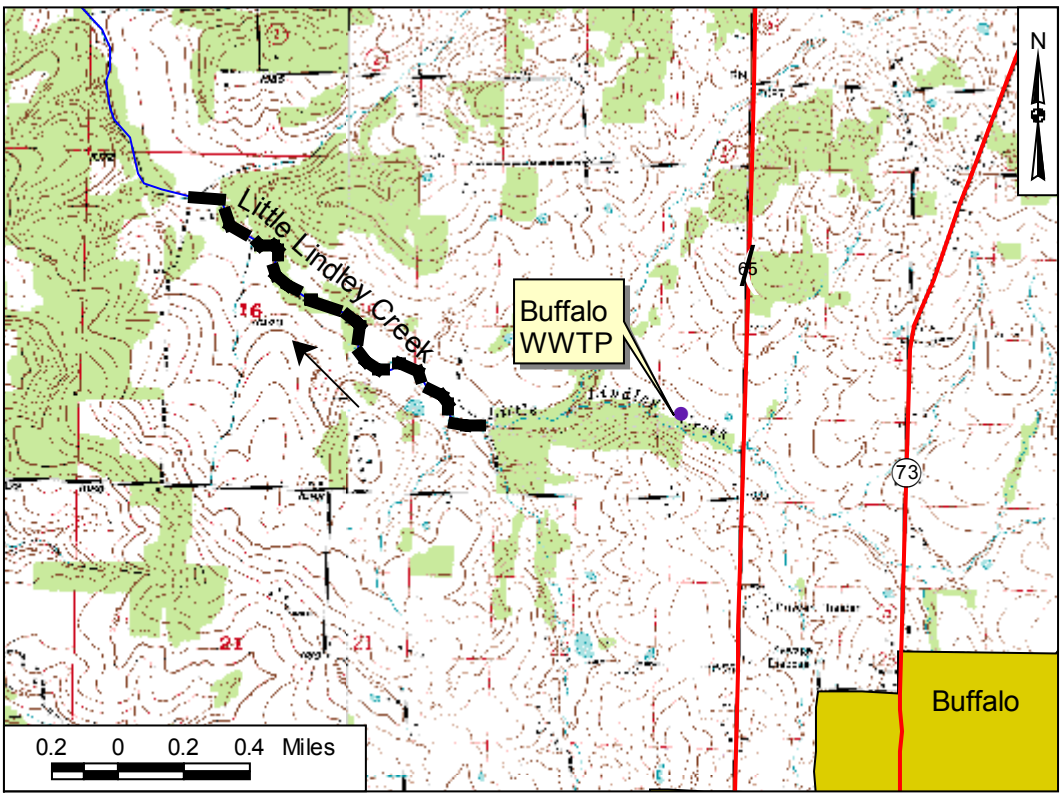
Standards that apply

- The Missouri Water Quality Standard (WQS), found in 10 CSR 20-7.031 Table A, for dissolved oxygen (related to Biochemical Oxygen Demand) in streams is 5.0 mg/L (milligrams per liter or parts per million).
- Standards for Volatile Suspended Solids may be found in the general criteria section of the WQS, 10 CSR 20-7.031(3)(A) and (C) where it states:
  - Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
  - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

Any waterbody that was listed for Non-Filterable Residue (NFR) in 1998 is now being listed as VSS. VSS (Volatile Suspended Solids) are organic solids coming from wastewater treatment plants. The new listing gives a clearer picture of the specific sources contributing to the impairment.

Little Lindley Creek shows reduced diversity of aquatic invertebrates downstream from the Buffalo wastewater treatment plant (WWTP). That means there are not as many different kinds of aquatic invertebrates (like water insects and crayfish) as there used to be. Most aquatic organisms require high levels of oxygen to survive and wastewater high in high Biochemical Oxygen Demand (BOD) reduces the amount of dissolved oxygen in the stream's water. In addition, VSS can settle onto the bottom of a stream smothering natural substrates (materials in the streambed), aquatic invertebrate animals and fish eggs. Like all wastewater discharges in Missouri, the Buffalo WWTP has to meet the requirements of a discharge permit issued by Missouri Department of Natural Resources. The department plans additional aquatic invertebrate studies of Little Lindley. If these studies show that the creek is not meeting water quality standards, changes will be made to the discharge permit that will result in improving the quality of the water in Little Lindley Creek.

Little Lindley Creek with the Buffalo Wastewater Treatment Plant



Impaired Segment Direction of Flow

For more information call or write:
Missouri Department of Natural Resources
Water Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-1300 office
(573) 751-9396 fax
Program Home Page: www.dnr.state.mo.us/wpscd/wpcp/index.html